INDEX TO AUTHORS

A

Adolph, William H., and **Liang, Chih-Chuan.** The fate of oxalic acid administered to the rat, 497

Alexander, Benjamin, and **Levi, J. Elliot.** A simple method for the chemical determination of urinary thiamine based upon the Prebluda-McCollum reaction, 399

Allen, Willard M. See *Woolf, Viergiver, and Allen*, 323

Anderson, Thomas F. See *Stanley and Anderson*, 25

B

Baer, Erich. A suggested mechanism of biological acylations. I. The formation of acetylcholine, 391

Baldwin, H. R. See *Hale, Davis, and Baldwin*, 553, 565

Baumann, C. A., Field, John B., Overman, Ralph S., and **Link, Karl Paul.** Studies on the hemorrhagic sweet clover disease. X. Induced vitamin C excretion in the rat and its effect on the hypoprothrombinemia caused by 3,3′ - methylenebis(4 - hydroxycoumarin), 7

Beecher, H. K., Follansbee, R., Murphy, A. J., and **Craig, F. N.** Determination of the oxygen content of small quantities of body fluids by polarographic analysis, 197

Bennett, Emmett. The hemicelluloses of forage plants, 407

Berg, Clarence P. See *Featherstone and Berg*, 131

Boyd, M. John, and **Logan, Milan A.** Colorimetric determination of serine, 279

Boyer, Paul D., Lardy, Henry A., and **Phillips, Paul H.** The rôle of potassium in muscle phosphorylations, 673

Browne, J. S. L. See *Venning, Hoffman, and Browne*, 369

Buhs, Rudolf P. See *Scudi and Buhs*, 1

C

Chaikoff, I. L. See *Schachner, Fries, and Chaikoff*, 95

Coburn, Alvin F. See *Dubos, Hotchkiss, and Coburn*, 421

Cohen, Dorothy L. See *Lowry, Smith, and Cohen*, 519

Cohen, Seymour S. The electrophoretic mobilities of desoxyribose and ribose nucleic acids, 471

Craig, F. N. See *Beecher, Follansbee, Murphy, and Craig*, 197

Cunningham, Burris. See *Sandkuhle, Kirk, and Cunningham*, 427

D

Dakin, H. D. On lysine and ornithine, 237

Dann, W. J. See *Handler and Dann*, 357

Darby, William J., and **Lewis, Howard B.** Urocanic acid and the intermediary metabolism of histidine in the rabbit, 225

Davis, Adelle. See *Deuel and Davis*, 649

Davis, Bernard D., Hollaender, Alexander, and **Greenstein, Jesse P.** Electrophoretic patterns, colloid osmotic pressure, and viscosity of serum denatured by ultraviolet radiation, 663

Davis, G. K. See *Hale, Davis, and Baldwin*, 553, 565

Deuel, Harry J., Jr., and **Davis, Adelle.** The sexual variation in carbohydrate metabolism. X. The comparative glucose tolerance of normal rats and those with fatty livers, 649

Devlin, Henry B., and **Mattill, H. A.** The chemical determination of tocopherols in muscle tissue, 123

Dicken, Dorothy M. See *Landy and Dicken*, 109

Dillon, Robert T. See *Van Slyke, Hiller, and Dillon*, 137
Divine, J. P. See *Jones, Divine, and Horn*, 571
Drabkin, David L. Spectrophotometric studies. X. Structural interpretation of the spectra of cyanide, pyridine, and carbon monoxide derivatives of cytochrome *c* and hemoglobin, 605
Dubos, René J., Hotchkiss, Rollin D., and **Coburn, Alvin F.** The effect of gramicidin and tyrocidine on bacterial metabolism, 421

E

Eadie, G. S. The inhibition of cholinesterase by physostigmine and prostigmine, 85
Elliott, K. A. C., Scott, D. B. McNair, and **Libet, B.** Studies on the metabolism of brain suspensions. II. Carbohydrate utilization, 251
Evans, Herbert M. See *Li, Simpson, and Evans*, 627

F

Featherstone, Robert M., and **Berg, Clarence P.** The comparative availabilities of *d*(+)- and *l*(−)-histidine for the production of liver glycogen, 131
Field, John B. See *Baumann, Field, Overman, and Link*, 7
Flink, Edmund Berney, and **Watson, Cecil James.** A method for the quantitative determination of hemoglobin and related heme pigments in feces, urine, and blood plasma, 171
Folch, Jordi. Brain cephalin, a mixture of phosphatides. Separation from it of phosphatidyl serine, phosphatidyl ethanolamine, and a fraction containing an inositol phosphatide, 35
—. The nature of the glycerophosphoric acid present in phosphatides, 31
Folkers, Karl. See *du Vigneaud, Melville, Folkers, Wolf, Mozingo, Keresztesy, and Harris*, 475
Follansbee, R. See *Beecher, Follansbee, Murphy, and Craig*, 197
Ford, Zenas W., Jr. See *Sure and Ford*, 241
Fraps, G. S. See *Wegner, Kemmerer, and Fraps*, 547
Friedenwald, Jonas S., and **Herrmann, Heinz.** The inactivation of amine oxidase by enzymatic oxidative products of catechol and adrenalin, 411
Fries, B. A. See *Schachner, Fries, and Chaikoff*, 95
Fruton, Joseph S. Synthesis of peptides of *l*-serine, 463

G

Gould, Bernard S., Tytell, Alfred A., and **Jaffe, Herbert.** Biochemistry of *Fusaria*. The influence of diphosphopyridine nucleotide on alcoholic fermentation (*in vivo*), 219
Granick, S. Ferritin. I. Physical and chemical properties of horse spleen ferritin, 451
Green, Milton. See *Reiner, Moore, Lang, and Green*, 583
Greenstein, Jesse P. See *Davis, Hollaender, and Greenstein*, 663
Gulick, Addison. See *Mayer and Gulick*, 433

H

Haines, William J. See *Rose, Haines, and Johnson*, 683
Hale, E. B., Davis, G. K., and **Baldwin, H. R.** The chemical determination of nicotinic acid in plant materials, 553
—, —, and —. The distribution of nicotinic acid in feeds, 565
Handler, Philip, and **Dann, W. J.** The inhibition of rat growth by nicotinamide, 357
Harris, Stanton A. See *du Vigneaud, Melville, Folkers, Wolf, Mozingo, Keresztesy, and Harris*, 475
Herrmann, Heinz. See *Friedenwald and Herrmann*, 411
Hess, W. C., and **Sullivan, M. X.** Canine cystinuria. The cystine output on an arachin diet, 381
— and —. The quantitative determination of lanthionine, 15

Highet, Doris M., and **West, Edward S.** A procedure for the determination of ascorbic acid based upon the use of a standardized solution of 2,6-dichlorophenol indophenol in xylene, 655

Hiller, Alma. See *Van Slyke, Hiller, and Dillon*, 137

Hoagland, Charles L., and **Ward, S. M.** The quantitative determination of factor V by measurement of nitrite produced by *Hemophilus influenzae*, 115

Hoffman, M. M. See *Venning, Hoffman, and Browne*, 369

Hofmann, Klaus. See *Melville, Moyer, Hofmann, and du Vigneaud*, 487

Hollaender, Alexander. See *Davis, Hollaender, and Greenstein*, 663

Horn, Millard J. See *Jones, Divine, and Horn*, 571

Hotchkiss, Rollin D. See *Dubos, Hotchkiss, and Coburn*, 421

Houchin, O. Boyd. The *in vitro* effect of α-tocopherol and its phosphate derivative on oxidation in muscle tissue, 313

— and **Mattill, H. A.** The influence of parenteral administration of α-tocopherol phosphate on the metabolic processes in dystrophic muscle, 309

— and —. The oxygen consumption, creatine, and chloride content of muscles from vitamin E-deficient animals as influenced by feeding α-tocopherol, 301

Hughes, James. See *Saifer, Hughes, and Weiss*, 527

Hunter, F. Edmund, and **Levy, Sylvia Ruth.** Occurrence and rate of turnover of sphingomyelin in tissues of normal and tumor-bearing rats, 577

J

Jacoby, T. F. See *Theis and Jacoby*, 163

Jaffe, Herbert. See *Gould, Tytell, and Jaffe*, 219

Johnson, Julius E. See *Rose, Haines, and Johnson*, 683

Jones, D. Breese, Divine, J. P., and **Horn, Millard J.** A study of the availability of mesolanthionine for the promotion of growth when added to a cystine-deficient diet, 571

Jukes, Thomas H., and **Welch, A. D.** The effect of certain analogues of choline on perosis, 19

K

Kemmerer, A. R. See *Wegner, Kemmerer, and Fraps*, 547

Keresztesy, John C. See *du Vigneaud, Melville, Folkers, Wolf, Mozingo, Keresztesy, and Harris*, 475

Kirk, Paul L. See *Sandkuhle, Kirk, and Cunningham*, 427

Krampitz, L. O. See *Woolley and Krampitz*, 273

L

Lampen, J. O., Underkofler, L. A., and **Peterson, W. H.** *p*-Aminobenzoic acid, a growth factor for *Acetobacter suboxydans*, 277

Landy, Maurice, and **Dicken, Dorothy M.** A microbiological method for the determination of *p*-aminobenzoic acid, 109

Lang, E. H. See *Reiner, Moore, Lang, and Green*, 583

Lardy, Henry A. See *Boyer, Lardy, and Phillips*, 673

Levi, J. Elliot. See *Alexander and Levi*, 399

Levy, Milton, and **Palmer, Albert H.** The benzoylation and resolution of alanine, 493

Levy, Sylvia Ruth. See *Hunter and Levy*, 577

Lewis, Howard B. See *Darby and Lewis*, 225

Lewis, J. C. A *Lactobacillus* assay method for *p*-aminobenzoic acid, 441

Li, Choh Hao. Studies on pituitary lactogenic hormone. VIII. Diffusion and viscosity measurements, 633

—, **Simpson, Miriam E.**, and **Evans, Herbert M.** Studies on pituitary lactogenic hormone. VII. A method of isolation, 627

Liang, Chih-Chuan. See *Adolph and Liang*, 497

Libet, B. See *Elliott, Scott, and Libet*, 251
Link, Karl Paul. See *Baumann, Field, Overman, and Link*, 7
Logan, Milan A. See *Boyd and Logan*, 279
Lowry, Oliver H., Smith, Clement A., and **Cohen, Dorothy L.** A microcolorimetric method for measuring the oxygen saturation of blood, 519

M

MacLachlan, P. L. Fat metabolism in the lungs, 45
Manning, Winston M. See *Strain and Manning*, 275
Mason, Harold L., and **Williams, Ray D.** Determination of thiamine in urine by the thiochrome method: estimation of the blank, 589
Mattill, H. A. See *Devlin and Mattill*, 123
—. See *Houchin and Mattill*, 301, 309
Mayer, Dennis T., and **Gulick, Addison.** The nature of the proteins of cellular nuclei, 433
McGinty, Daniel A. See *Seegers and McGinty*, 511
Melnick, Joseph L. The photochemical spectrum of cytochrome oxidase, 385
Melville, Donald B., Moyer, A. W., Hofmann, Klaus, and **du Vigneaud, Vincent.** The structure of biotin: the formation of thiophenevaleric acid from biotin, 487
—. See *du Vigneaud, Melville, Folkers, Wolf, Mozingo, Keresztesy, and Harris*, 475
Miller, Gail Lorenz. Derivatives of tobacco mosaic virus. III. The rôle of denaturation of the virus in the measurement of phenolic groups, 339
—. IV. A study of the determination of phenol groups in virus derivatives by means of model experiments with derivatives of tyrosine, 345
— and **Stanley, W. M.** Derivatives of tobacco mosaic virus. II. Carbobenzoxy, *p*-chlorobenzoyl, and benzenesulfonyl virus, 331
Moore, Dan H. See *Reiner, Moore, Lang, and Green*, 583
Moyer, A. W. See *Melville, Moyer, Hofmann, and du Vigneaud*, 487
Mozingo, Ralph. See *du Vigneaud, Melville, Folkers, Wolf, Mozingo, Keresztesy, and Harris*, 475
Murphy, A. J. See *Beecher, Follansbee, Murphy, and Craig*, 197
Mushett, Charles W. See *Silber and Mushett*, 271

O

Ormsby, Andrew A. A direct colorimetric method for the determination of urea in blood and urine, 595
Overman, Ralph S. See *Baumann, Field, Overman, and Link*, 7

P

Palmer, Albert H. See *Levy and Palmer*, 493
Pavcek, P. L., and **Shull, G. M.** Inactivation of biotin by rancid fats, 351
Peters, John H. The determination of creatinine and creatine in blood and urine with the photoelectric colorimeter, 179
Peterson, Ralph E. Essential factors for the growth of the ciliate protozoan, *Colpidium campylum*, 537
Peterson, W. H. See *Lampen, Underkofler, and Peterson*, 277
Phillips, Paul H. See *Boyer, Lardy, and Phillips*, 673
Powell, Ross C., Jr., and **Shaw, J. C.** The non-utilization of lactic acid by the lactating mammary gland, 207

R

Reiner, L., Moore, Dan H., Lang, E. H., and **Green, Milton.** Electrophoretic components of globin, 583
Rinehart, Robert E. See *West and Rinehart*, 105
Rose, William C., Haines, William J., and **Johnson, Julius E.** The rôle of the amino acids in human nutrition, 683

Ross, William F., and **Wood, Thomas R.** The partial purification and some observations on the nature of the parathyroid hormone, 49
—. See *Tracy and Ross*, 63
—. See *Wood and Ross*, 59

S

Saifer, Abraham, Hughes, James, and **Weiss, Ethel.** Determination of chlorides in biological fluids by the use of adsorption indicators. A new method for the determination of the plasma volume of blood, 527
Sandkuhle, J., Kirk, Paul L., and **Cunningham, Burris.** Quantitative drop analysis. XVII. Gasometric determination of amino nitrogen, 427
Schachner, H., Fries, B. A., and **Chaikoff, I. L.** The effect of hexoses and pentoses on the formation *in vitro* of phospholipid by brain tissue as measured with radioactive phosphorus, 95
Schlenk, F. Identification of the carbohydrate group in the nicotinamide nucleotides, 619
Schmidt, Carl L. A. See *Tarver and Schmidt*, 69
Scholander, P. F. Analyzer for quick estimation of respiratory gases, 159
Scott, D. B. McNair. See *Elliott, Scott, and Libet*, 251
Scudi, John V., and **Buhs, Rudolf P.** Determination of the tocopherols and the tocopherylquinones by the colorimetric oxidation-reduction method, 1
Sealock, Robert Ridgely. The effect of dicarboxylic acid administration upon the excretion of tyrosine metabolites by the guinea pig, 503
Seegers, Walter H., and **McGinty, Daniel A.** Further purification of thrombin: probable purity of products, 511
Shaw, J. C. See *Powell and Shaw*, 207
Shull, G. M. See *Pavcek and Shull*, 351
Silber, Robert H., and **Mushett, Charles W.** pH change as a measure of growth of *Lactobacillus casei* in vitamin assays, 271
Simmonds, Sofia, and **du Vigneaud, Vincent.** Transmethylation as a metabolic process in man, 685
Simpson, Miriam E. See *Li, Simpson, and Evans*, 627
Smith, Clement A. See *Lowry, Smith, and Cohen*, 519
Smith, Elizabeth R. B., and **Smith, Paul K.** Thermodynamic properties of solutions of amino acids and related substances. VIII. The ionization of of glycylglycine, ϵ-aminocaproic acid, and aspartic acid in aqueous solution from one to fifty degrees, 187
Smith, Paul K. See *Smith and Smith*, 187
Snyder, Fred H., and **Tweedy, Wilbur R.** The effects of a magnesium-deficient diet on the serum phosphatase activity in the albino rat, 639
Stanley, W. M., and **Anderson, Thomas F.** Electron micrographs of protein molecules, 25
—. See *Miller and Stanley*, 331
Strain, Harold H., and **Manning, Winston M.** Isomerization of chlorophylls *a* and *b*, 275
Sullivan, M. X. See *Hess and Sullivan*, 15, 381
Sumner, Robert J. Lipid oxidase studies. II. The specificity of the enzyme lipoxidase, 211
—. III. The relation between carotene oxidation and the enzymic peroxidation of unsaturated fats, 215
Sure, Barnett, and **Ford, Zenas W., Jr.** Vitamin interrelationships. II. Thiamine and riboflavin interrelationships in metabolism, 241

T

Tarver, Harold, and **Schmidt, Carl L. A.** Radioactive sulfur studies. I. Synthesis of methionine*. II. Conversion of methionine sulfur to taurine sulfur in dogs and rats. III. Distribution of sulfur* in the proteins of animals fed sulfur* or methionine*. IV. Experiments *in vitro* with sulfur* and hydrogen sulfide*, 69

Theis, Edwin R., and **Jacoby, T. F.** The acid-base-binding capacity of collagen, 163

Tracy, Ann H., and **Ross, William F.** Carbon suboxide and proteins. VII. Malonyl pepsin, 63

Tweedy, Wilbur R. See *Snyder and Tweedy*, 639

Tytell, Alfred A. See *Gould, Tytell, and Jaffe*, 219

U

Underkofler, L. A. See *Lampen, Underkofler, and Peterson*, 277

Utter, M. F., and **Werkman, C. H.** Effect of metal ions on the reactions of phosphopyruvate by *Escherichia coli*, 289

V

Van Slyke, Donald D., Hiller, Alma, and **Dillon, Robert T.** Solubilities and compositions of the phospho-12-tungstates of the diamino acids and of proline, glycine, and tryptophane, 137

Venning, Eleanor H., Hoffman, M. M., and **Browne, J. S. L.** Isolation of androsterone sulfate, 369

Viergiver, Ellenmae. See *Woolf, Viergiver, and Allen*, 323

du Vigneaud, Vincent, Melville, Donald B., Folkers, Karl, Wolf, Donald E., Mozingo, Ralph, Keresztesy, John C., and **Harris, Stanton A.** The structure of biotin: a study of desthiobiotin, 475

—. See *Melville, Moyer, Hofmann, and du Vigneaud*, 487

—. See *Simmonds and du Vigneaud*, 685

W

Ward, S. M. See *Hoagland and Ward*, 115

Watson, Cecil James. See *Flink and Watson*, 171

Wegner, M. I., Kemmerer, A. R., and **Fraps. G. S.** Influence of the method of preparation of sample on microbiological assay for riboflavin, 547

Weiss, Ethel. See *Saifer, Hughes, and Weiss*, 527

Welch, A. D. See *Jukes and Welch*, 19

Werkman, C. H. See *Utter and Werkman*, 289

West, Edward S., and **Rinehart, Robert E.** Reaction of ninhydrin with ascorbic acid and other endiol compounds. Decarboxylation of dehydroascorbic acid, 105

—. See *Highet and West*, 655

Williams, Ray D. See *Mason and Williams*, 589

Wolf, Donald E. See *du Vigneaud, Melville, Folkers, Wolf, Mozingo, Keresztesy, and Harris*, 475

Wood, Thomas R., and **Ross, William F.** The ketene acetylation of the parathyroid hormone, 59

—. See *Ross and Wood*, 49

Woolf, Ralph B., Viergiver, Ellenmae, and **Allen, Willard M.** Study of the distribution of sodium pregnanediol glucuronidate between *n*-butanol and urine of pregnant women, together with its practical application, 323

Woolley, D. W., and **Krampitz, L. O.** Reversal by phosphatides of the antimicrobial action of a crystalline protein from wheat, 273

INDEX TO SUBJECTS

A

Acetobacter suboxydans: Growth factor, *p*-aminobenzoic acid, *Lampen, Underkofler, and Peterson,* 277

Acetylcholine: Formation, mechanism, *Baer,* 391

Acid-base: -Binding capacity, collagen, *Theis and Jacoby,* 163

Acylation(s): Biological, mechanism, *Baer,* 391

Adrenalin: Derivatives, amine oxidase inactivation, effect, *Friedenwald and Herrmann,* 411

Alanine: Benzoylation, *Levy and Palmer,* 493

Resolution, *Levy and Palmer,* 493

Alcohol: Fermentation, *Fusarium, in vivo,* diphosphopyridine nucleotide effect, *Gould, Tytell, and Jaffe,* 219

Amine: Oxidase, inactivation, catechol and adrenalin derivatives, effect, *Friedenwald and Herrmann,* 411

Amino acid(s): Di-, phospho-12-tungstates, solubility and composition, *Van Slyke, Hiller, and Dillon,* 137

Nutrition, rôle, *Rose, Haines, and Johnson,* 683

Solutions, thermodynamic properties, *Smith and Smith,* 187

Aminobenzoic acid: *p*-, *Acetobacter suboxydans* growth factor, *Lampen, Underkofler, and Peterson,* 277

—, determination, *Lactobacillus* use, *Lewis,* 441

—, —, microbiological, *Landy and Dicken,* 109

Aminocaproic acid: ϵ-, ionization, aqueous solution, *Smith and Smith,* 187

Amino nitrogen: Determination, gasometric, *Sandkuhle, Kirk, and Cunningham,* 427

Androsterone sulfate: Isolation, *Venning, Hoffman, and Browne,* 369

Apparatus: Gas, respiratory, determination, *Scholander,* 159

Arachin: Cystine excretion, cystinuria, effect, *Hess and Sullivan,* 381

Ascorbic acid: Dehydro-, decarboxylation, ninhydrin effect, *West and Rinehart,* 105

Determination, 2,6-dichlorophenol indophenol in xylene, use, *Highet and West,* 655

Ninhydrin reaction, *West and Rinehart,* 105

Aspartic acid: Ionization, aqueous solution, *Smith and Smith,* 187

B

Bacillus: *See also Lactobacillus*

Bacteria: Metabolism, gramicidin effect, *Dubos, Hotchkiss, and Coburn,* 421

—, tyrocidine effect, *Dubos, Hotchkiss, and Coburn,* 421

See also Acetobacter suboxydans, Escherichia coli

Benzenesulfonyl derivative: Tobacco mosaic virus, *Miller and Stanley,* 331

Benzoic acid: *p*-Amino-, *Acetobacter suboxydans* growth factor, *Lampen, Underkofler, and Peterson,* 277

—, determination, *Lactobacillus* use, *Lewis,* 441

—, —, microbiological, *Landy and Dicken,* 109

Biotin: Chemical constitution, *du Vigneaud, Melville, Folkers, Wolf, Mozingo, Keresztesy, and Harris,* 475

Melville, Moyer, Hofmann, and du Vigneaud, 487

Desthio-, biotin chemical constitution, relation, *du Vigneaud, Melville, Folkers, Wolf, Mozingo, Keresztesy, and Harris,* 475

Inactivation, fats, rancid, *Pavcek and Shull,* 351

Thiophenevaleric acid from, *Melville, Moyer, Hofmann, and du Vigneaud,* 487

Blood: Creatine determination, colorimetric, *Peters*, 179
Creatinine determination, colorimetric, *Peters*, 179
Oxygen saturation, determination, colorimetric, micro-, *Lowry, Smith, and Cohen*, 519
Urea, determination, colorimetric, *Ormsby*, 595
Blood plasma: Hemoglobin and heme pigments, determination, *Flink and Watson*, 171
Volume, determination, *Saifer, Hughes, and Weiss*, 527
Blood serum: Colloid osmotic pressure, ultraviolet radiation, effect, *Davis, Hollaender, and Greenstein*, 663
Electrophoretic patterns, ultraviolet radiation, effect, *Davis, Hollaender, and Greenstein*, 663
Phosphatase, magnesium-deficient diet, effect, *Snyder and Tweedy*, 639
Viscosity, ultraviolet radiation, effect, *Davis, Hollaender, and Greenstein*, 663
Brain: Carbohydrate utilization, *Elliott, Scott, and Libet*, 251
Cephalin, nature, *Folch*, 35
—, phosphatidyl serine, phosphatidyl ethanolamine, and inositol phosphatide fraction, separation, *Folch*, 35
Metabolism, *Elliott, Scott, and Libet*, 251
Phospholipid, formation *in vitro*, radioactive phosphorus in study, hexose and pentose effect, *Schachner, Fries, and Chaikoff*, 95
Butanol: *n*-, and urine, pregnancy, sodium pregnanediol glucuronidate distribution, *Woolf, Viergiver, and Allen*, 323

C

Caproic acid: ε-Amino-, ionization, aqueous solution, *Smith and Smith*, 187
Carbobenzoxy derivative: Tobacco mosaic virus, *Miller and Stanley*, 331
Carbohydrate(s): Brain, utilization, *Elliott, Scott, and Libet*, 251
Carbohydrate(s)—*continued:*
Group, nicotinamide nucleotides, identification, *Schlenk*, 619
Metabolism, sexual variation, *Deuel and Davis*, 649
Carbon monoxide: Cytochrome *c* derivatives, chemical constitution, *Drabkin*, 605
Hemoglobin derivatives, chemical constitution, *Drabkin*, 605
Carbon suboxide: Proteins and, *Tracy and Ross*, 63
Carboxylic acid: Di-, tyrosine metabolites, excretion, administration effect, *Sealock*, 503
Carotene: Oxidation, unsaturated fats, peroxidation, enzymic, relation, *Sumner*, 215
Catechol: Derivatives, amine oxidase inactivation, effect, *Friedenwald and Herrmann*, 411
Cell(s): Nucleus, proteins, *Mayer and Gulick*, 433
Cephalin: Brain, nature, *Folch*, 35
—, phosphatidyl serine, phosphatidyl ethanolamine, and inositol phosphatide fraction, separation, *Folch*, 35
Chloride(s): Biological fluids, determination, adsorption indicators, *Saifer, Hughes, and Weiss*, 527
Muscle, vitamin E deficiency, α-tocopherol effect, *Houchin and Mattill*, 301
Chlorobenzoyl: *p*-, derivative, tobacco mosaic virus, *Miller and Stanley*, 331
Chlorophyll(s): *a*, isomerization, *Strain and Manning*, 275
b, isomerization, *Strain and Manning*, 275
Choline: Acetyl-, formation, mechanism, *Baer*, 391
Analogues, perosis, effect, *Jukes and Welch*, 19
Esterase, physostigmine effect, *Eadie*, 85
—, prostigmine effect, *Eadie*, 85
Clover: Sweet, hemorrhagic disease, *Baumann, Field, Overman, and Link*, 7

Collagen: Acid-base-binding capacity, *Theis and Jacoby*, 163
Colpidium campylum: Growth factors, *Peterson*, 537
Coumarin: 3,3′-Methylenebis(4-hydroxy-), vitamin C excretion and hypoprothrombinemia, effect, *Baumann, Field, Overman, and Link*, 7
Creatine: Blood, determination, colorimetric, *Peters*, 179
Muscle, vitamin E deficiency, α-tocopherol effect, *Houchin and Mattill*, 301
Urine, determination, colorimetric, *Peters*, 179
Creatinine: Blood, determination, colorimetric, *Peters*, 179
Urine, determination, colorimetric, *Peters*, 179
Cyanide: Cytochrome *c* derivatives, chemical constitution, *Drabkin*, 605
Hemoglobin derivatives, chemical constitution, *Drabkin*, 605
Cystine: -Deficient diet, growth, mesolanthionine effect, *Jones, Divine, and Horn*, 571
Excretion, cystinuria, arachin effect, *Hess and Sullivan*, 381
Cystinuria: Cystine excretion, arachin effect, *Hess and Sullivan*, 381
Dog, *Hess and Sullivan*, 381
Cytochrome: *c*, carbon monoxide derivatives, chemical constitution, *Drabkin*, 605
—, cyanide derivatives, chemical constitution, *Drabkin*, 605
—, pyridine derivatives, chemical constitution, *Drabkin*, 605
Oxidase, spectrum, *Melnick*, 385

D

Dehydroascorbic acid: Decarboxylation, ninhydrin effect, *West and Rinehart*, 105
Desoxyribose: Electrophoretic mobilities, *Cohen*, 471
Desthiobiotin: Biotin chemical constitution, relation, *du Vigneaud, Melville, Folkers, Wolf, Mozingo, Keresztesy, and Harris*, 475
Diamino acid(s): Phospho-12-tungstates, solubility and composition, *Van Slyke, Hiller, and Dillon*, 137
Dicarboxylic acid: Tyrosine metabolites, excretion, administration effect, *Sealock*, 503
Dichlorophenol indophenol: 2,6-, ascorbic acid determination, use, *Highet and West*, 655
Diphosphopyridine: Nucleotide, *Fusarium* fermentation, alcoholic, *in vivo, Gould, Tytell, and Jaffe*, 219
Drop analysis: Quantitative, *Sandkuhle, Kirk, and Cunningham*, 427

E

Endiol compound(s): Ninhydrin reaction, *West and Rinehart*, 105
Enzyme(s): Fats, unsaturated, peroxidation, carotene oxidation, relation, *Sumner*, 215
See also Esterase, Lipoxidase, Malonyl pepsin, Oxidase, Phosphatase
Epinephrine: *See also* Adrenalin
Escherichia coli: Phosphopyruvate reactions, metal ions, effect, *Utter and Werkman*, 289
Esterase: Choline, physostigmine effect, *Eadie*, 85
—, prostigmine effect, *Eadie*, 85
Ethanolamine: Phosphatidyl, brain cephalin, separation, *Folch*, 35

F

Factor V: Determination, *Hemophilus influenzae* use, *Hoagland and Ward*, 115
Fat(s): Metabolism, lung, *MacLachlan*, 45
Rancid, biotin inactivation, *Pavcek and Shull*, 351
Unsaturated, peroxidation, enzymic, carotene oxidation, relation, *Sumner*, 215
Feces: Hemoglobin and heme pigments, determination, *Flink and Watson*, 171
Feed(s): Nicotinic acid, *Hale, Davis, and Baldwin*, 565
Ferritin: *Granick*, 451
Spleen, properties, *Granick*, 451

Fungus: *See also Fusarium*
Fusarium: Biochemistry, *Gould, Tytell, and Jaffe,* 219

G

Gas: Respiratory, determination, apparatus, *Scholander,* 159
Globin: Electrophoresis, *Reiner, Moore, Lang, and Green,* 583
Glucose: Tolerance, normal and fatty livers, sexual variation, *Deuel and Davis,* 649
Glycerophosphoric acid: Phosphatides, nature, *Folch,* 31
Glycine: Glycyl-, ionization, aqueous solution, *Smith and Smith,* 187
Phospho-12-tungstates, solubility and composition, *Van Slyke, Hiller, and Dillon,* 137
Glycogen: Liver, *d*(+)-histidine effect, *Featherstone and Berg,* 131
—, *l*(−)-histidine effect, *Featherstone and Berg,* 131
Glycylglycine: Ionization, aqueous solution, *Smith and Smith,* 187
Gramicidin: Bacteria, metabolism, effect, *Dubos, Hotchkiss, and Coburn,* 421
Growth: *Acetobacter suboxydans*, *p*-aminobenzoic acid effect, *Lampen, Underkofler, and Peterson,* 277
Factor, *Colpidium campylum, Peterson,* 537
Mesolanthionine effect, cystine-deficient diet, *Jones, Divine, and Horn,* 571
Nicotinamide effect, *Handler and Dann,* 357

H

Heme: Pigments, blood plasma, determination, *Flink and Watson,* 171
—, feces, determination, *Flink and Watson,* 171
—, urine, determination, *Flink and Watson,* 171
Hemicellulose(s): Forage plants, *Bennett,* 407
Hemoglobin: Blood plasma, determination, *Flink and Watson,* 171
Hemoglobin—*continued:*
Carbon monoxide derivatives, chemical constitution, *Drabkin,* 605
Cyanide derivatives, chemical constitution, *Drabkin,* 605
Feces, determination, *Flink and Watson,* 171
Pyridine derivatives, chemical constitution, *Drabkin,* 605
Urine, determination, *Flink and Watson,* 171
Hemophilus influenzae: Factor V determination, use in, *Hoagland and Ward,* 115
Hemorrhage: Sweet clover disease, *Baumann, Field, Overman, and Link,* 7
Hexose(s): Brain phospholipid formation *in vitro*, radioactive phosphorus in study, effect, *Schachner, Fries, and Chaikoff,* 95
Histidine: *d*(+)-, liver glycogen, effect, *Featherstone and Berg,* 131
l(−)-, liver glycogen, effect, *Featherstone and Berg,* 131
Metabolism, intermediary, urocanic acid, relation, *Darby and Lewis,* 225
Hydrogen ion concentration: *Lactobacillus casei* growth, vitamin determination, *Silber and Mushett,* 271
Hydrogen sulfide: Radioactive sulfur-containing, *Tarver and Schmidt,* 69
Hypoprothrombinemia: Vitamin C excretion and, 3,3′-methylenebis(4-hydroxycoumarin) effect, *Baumann, Field, Overman, and Link,* 7

I

Inositol: Phosphatide, brain cephalin, separation, *Folch,* 35

K

Ketene: Parathyroid hormone acetylation, *Wood and Ross,* 59

L

Lactation: Mammary gland, lactic acid non-utilization, *Powell and Shaw,* 207
Lactic acid: Mammary gland, lactating,

non-utilization, *Powell and Shaw*, 207
Lactobacillus: *p*-Aminobenzoic acid determination, use, *Lewis*, 441
Lactobacillus casei: Growth, hydrogen ion concentration change, vitamin determination, use, *Silber and Mushett*, 271
Lactogenic hormone: Pituitary, *Li, Simpson, and Evans*, 627
Li, 633
—, diffusion and viscosity measurements, *Li*, 633
—, isolation, *Li, Simpson, and Evans*, 627
Lanthionine: Determination, *Hess and Sullivan*, 15
Meso-, growth effect, cystine-deficient diet, *Jones, Divine, and Horn*, 571
Lipid(s): Oxidase, *Sumner*, 211, 215
Phospho-. *See* Phospholipid
Lipoxidase: Specificity, *Sumner*, 211
Liver: Fatty, glucose tolerance, sexual variation, *Deuel and Davis*, 649
Glycogen, *d*(+)-histidine effect, *Featherstone and Berg*, 131
—, *l*(−)-histidine effect, *Featherstone and Berg*, 131
Lung(s): Fat metabolism, *MacLachlan*, 45
Lysine: *Dakin*, 237

M

Magnesium: -Deficient diet, blood serum phosphatase, effect, *Snyder and Tweedy*, 639
Malonyl pepsin: *Tracy and Ross*, 63
Mammary gland: Lactating, lactic acid non-utilization, *Powell and Shaw*, 207
Mesolanthionine: Growth effect, cystine-deficient diet, *Jones, Divine, and Horn*, 571
Metabolism: Transmethylation and, *Simmonds and du Vigneaud*, 685
Metal: Ions, phosphopyruvate reaction, *Escherichia coli*, effect, *Utter and Werkman*, 289
Methionine: Radioactive, sulfur-containing, body protein radioactive
Methionine—*continued:*
sulfur distribution, ingestion effect, *Tarver and Schmidt*, 69
—,—, synthesis, *Tarver and Schmidt*, 69
Sulfur, taurine sulfur conversion, *Tarver and Schmidt*, 69
Methylenebis(4 - hydroxycoumarin): 3,3′-, vitamin C excretion and hypoprothrombinemia, effect, *Baumann, Field, Overman, and Link*, 7
Microbial action: Anti-, wheat protein, crystalline, phosphatide reversal, effect, *Woolley and Krampitz*, 273
Muscle: Chloride, vitamin E deficiency, α-tocopherol effect, *Houchin and Mattill*, 301
Creatine, vitamin E deficiency, α-tocopherol effect, *Houchin and Mattill*, 301
Dystrophy, α-tocopherol phosphate effect, *Houchin and Mattill*, 309
Oxidation, α-tocopherol and phosphate derivative, *in vitro*, effect, *Houchin*, 313
Oxygen consumption, vitamin E deficiency, α-tocopherol effect, *Houchin and Mattill*, 301
Phosphorylations, potassium rôle, *Boyer, Lardy, and Phillips*, 673
Tocopherols, determination, chemical, *Devlin and Mattill*, 123

N

Nicotinamide: Growth, effect, *Handler and Dann*, 357
Nucleotides, carbohydrate group, identification, *Schlenk*, 619
Nicotinic acid: Feeds, *Hale, Davis, and Baldwin*, 565
Plant, determination, chemical, *Hale, Davis, and Baldwin*, 553
Ninhydrin: Ascorbic acid and, reaction, *West and Rinehart*, 105
Endiol compounds and, reaction, *West and Rinehart*, 105
Nitrogen: Amino. *See* Amino nitrogen
Nucleic acid(s): Ribose, electrophoretic mobilities, *Cohen*, 471

Nucleotide(s): Diphosphopyridine, *Fusarium* fermentation, alcoholic, *in vivo, Gould, Tytell, and Jaffe,* 219
Nicotinamide, carbohydrate group, identification, *Schlenk,* 619
Nucleus: *See* Cell
Nutrition: Amino acids, rôle, *Rose, Haines, and Johnson,* 683

O

Ornithine: *Dakin,* 237
Oxalic acid: Fate, *Adolph and Liang,* 497
Oxidase: Amine, inactivation, catechol and adrenalin derivatives, effect, *Friedenwald and Herrmann,* 411
Cytochrome, spectrum, *Melnick,* 385
Lipid, *Sumner,* 211, 215
Oxygen: Blood, saturation determination, colorimetric, micro-, *Lowry, Smith, and Cohen,* 519
Body fluids, determination, micro-, polarographic, *Beecher, Follansbee, Murphy, and Craig,* 197
Consumption, muscle, vitamin E deficiency, α-tocopherol effect, *Houchin and Mattill,* 301

P

Parathyroid: Hormone, ketene acetylation, *Wood and Ross,* 59
—, nature, *Ross and Wood,* 49
—, purification, *Ross and Wood,* 49
Pentose(s): Brain phospholipid formation *in vitro*, radioactive phosphorus in study, effect, *Schachner, Fries, and Chaikoff,* 95
Pepsin: Malonyl, *Tracy and Ross,* 63
Peptide(s): *l*-Serine, synthesis, *Fruton,* 463
Perosis: Choline analogues, effect, *Jukes and Welch,* 19
Phenolic group(s): Tobacco mosaic virus, denaturation measurement by, *Miller,* 339
— — — derivatives, determination, tyrosine derivatives, relation, *Miller,* 345
Phosphatase: Blood serum, magnesium-deficient diet, effect, *Snyder and Tweedy,* 639
Phosphatide(s): Glycerophosphoric acid, nature, *Folch,* 31
Inositol, brain cephalin, separation, *Folch,* 35
Reversal, wheat protein, crystalline, antimicrobial action, *Woolley and Krampitz,* 273
Phosphatidyl ethanolamine: Brain cephalin, separation, *Folch,* 35
Phosphatidyl serine: Brain cephalin, separation, *Folch,* 35
Phospholipid(s): Brain, formation *in vitro*, radioactive phosphorus in study, hexose and pentose effect, *Schachner, Fries, and Chaikoff,* 95
Phosphopyruvate: Reactions, *Escherichia coli*, metal ions, effect, *Utter and Werkman,* 289
Phosphorus: Radioactive, brain phospholipid formation *in vitro*, study with, hexose and pentose effect, *Schachner, Fries, and Chaikoff,* 95
Phosphorylation: Muscle, potassium rôle, *Boyer, Lardy, and Phillips,* 673
Phospho-12-tungstate(s): Diamino acids, solubility and composition, *Van Slyke, Hiller, and Dillon,* 137
Glycine, solubility and composition, *Van Slyke, Hiller, and Dillon,* 137
Proline, solubility and composition, *Van Slyke, Hiller, and Dillon,* 137
Tryptophane, solubility and composition, *Van Slyke, Hiller, and Dillon,* 137
Physostigmine: Choline esterase, effect, *Eadie,* 85
Pigment(s): Heme, blood plasma, determination, *Flink and Watson,* 171
—, feces, determination, *Flink and Watson,* 171
—, urine, determination, *Flink and Watson,* 171
Pituitary: Lactogenic hormone, *Li, Simpson, and Evans,* 627
Li, 633
— —, diffusion and viscosity measurements, *Li,* 633
— —, isolation, *Li, Simpson, and Evans,* 627

Plant(s): Forage, hemicelluloses, *Bennett,* 407
Nicotinic acid determination, chemical, *Hale, Davis, and Baldwin,* 553
Potassium: Muscle phosphorylations, rôle, *Boyer, Lardy, and Phillips,* 673
Pregnancy: Urine, *n*-butanol and, sodium pregnanediol glucuronidate distribution, *Woolf, Viergiver, and Allen,* 323
Pregnanediol glucuronidate: Sodium, *n*-butanol and pregnancy urine, distribution, *Woolf, Viergiver, and Allen,* 323
Proline: Phospho-12-tungstates, solubility and composition, *Van Slyke, Hiller, and Dillon,* 137
Prostigmine: Choline esterase, effect, *Eadie,* 85
Protein(s): Carbon suboxide and, *Tracy and Ross,* 63
Cellular nuclei, *Mayer and Gulick,* 433
Molecules, electron micrographs, *Stanley and Anderson,* 25
Radioactive sulfur distribution, dietary methionine radioactive sulfur-containing, ingestion effect, *Tarver and Schmidt,* 69
— — —, — radioactive sulfur, ingestion effect, *Tarver and Schmidt,* 69
Wheat, crystalline, phosphatide reversal, antimicrobial action, *Woolley and Krampitz,* 273
Prothrombinemia: *See also* Hypoprothrombinemia
Protozoa: *See also Colpidium campylum*
Pyridine: Cytochrome *c* derivatives, chemical constitution, *Drabkin,* 605
Diphospho-, *Fusarium* fermentation, alcoholic, *in vivo, Gould, Tytell, and Jaffe,* 219
Hemoglobin derivatives, chemical constitution, *Drabkin,* 605

Q

Quinone(s): Tocopheryl-, determination, colorimetric oxidation-reduction, *Scudi and Buhs,* 1

R

Respiration: Gases, determination, apparatus, *Scholander,* 159
Riboflavin: Determination, microbiological, sample preparation, effect, *Wegner, Kemmerer, and Fraps,* 547
Thiamine and, metabolism relation, *Sure and Ford,* 241
Ribose: Desoxy-, electrophoretic mobilities, *Cohen,* 471
Ribose nucleic acid(s): Electrophoretic mobilities, *Cohen,* 471

S

Serine: Determination, colorimetric, *Boyd and Logan,* 279
l-, peptides, synthesis, *Fruton,* 463
Phosphatidyl, brain cephalin, separation, *Folch,* 35
Sex: Carbohydrate metabolism, effect, *Deuel and Davis,* 649
Glucose tolerance, normal and fatty livers, effect, *Deuel and Davis,* 649
Spectrophotometry: *Drabkin,* 605
Sphingomyelin: Body tissue, occurrence and turnover, *Hunter and Levy,* 577
Tumor-bearing rats, occurrence and turnover, *Hunter and Levy,* 577
Spleen: Ferritin, properties, *Granick,* 451
Sulfur: Methionine, taurine sulfur conversion, *Tarver and Schmidt,* 69
Radioactive, *Tarver and Schmidt,* 69
—, body protein radioactive sulfur distribution, ingestion effect, *Tarver and Schmidt,* 69
Taurine, methionine sulfur, conversion, *Tarver and Schmidt,* 69

T

Taurine: Sulfur, methionine sulfur, conversion, *Tarver and Schmidt,* 69
Thiamine: Riboflavin and, metabolism relation, *Sure and Ford,* 241
Urine, determination, Prebluda-McCollum reaction, *Alexander and Levi,* 399
—, —, thiochrome method, *Mason and Williams,* 589

Thiophenevaleric acid: Biotin relation, *Melville, Moyer, Hofmann, and du Vigneaud,* 487
Thrombin: Purification, *Seegers and McGinty,* 511
Tobacco: Mosaic virus, carbobenzoxy, *p*-chlorobenzoyl, and benzenesulfonyl derivatives, *Miller and Stanley,* 331
— —, denaturation, measurement by phenolic groups, *Miller,* 339
— —, derivatives, *Miller and Stanley,* 331
Miller, 339, 345
— —, —, phenolic groups, determination, tyrosine derivatives, relation, *Miller,* 345
Tocopherol(s): α-, muscle oxidation, *in vitro,* effect, *Houchin,* 313
—, — oxygen consumption, creatine, and chloride, vitamin E deficiency, effect, *Houchin and Mattill,* 301
—, phosphate derivative, muscle oxidation *in vitro,* effect, *Houchin,* 313
—, —, muscle dystrophy, effect, *Houchin and Mattill,* 309
Determination, colorimetric oxidation-reduction, *Scudi and Buhs,* 1
Muscle, determination, chemical, *Devlin and Mattill,* 123
Tocopherylquinone(s): Determination, colorimetric oxidation-reduction, *Scudi and Buhs,* 1
Transmethylation: Metabolism rôle, *Simmonds and du Vigneaud,* 685
Tryptophane: Phospho-12-tungstates, solubility and composition, *Van Slyke, Hiller, and Dillon,* 137
Tumor: -Bearing rats, sphingomyelin occurrence and turnover, *Hunter and Levy,* 577
Tyrocidine: Bacteria, metabolism, effect, *Dubos, Hotchkiss, and Coburn,* 421
Tyrosine: Derivatives, tobacco mosaic virus phenolic groups, determination, relation, *Miller,* 345
Metabolites, excretion, dicarboxylic acid administration effect, *Sealock,* 503

U

Urea: Blood, determination, colorimetric, *Ormsby,* 595
Urine, determination, colorimetric, *Ormsby,* 595
Urine: Creatine determination, colorimetric, *Peters,* 179
Creatinine determination, colorimetric, *Peters,* 179
Hemoglobin and heme pigments, determination, *Flink and Watson,* 171
Pregnancy, *n*-butanol and, sodium pregnanediol glucuronidate distribution, *Woolf, Viergiver, and Allen,* 323
Thiamine, determination, Prebluda-McCollum reaction, *Alexander and Levi,* 399
—, —, thiochrome method, *Mason and Williams,* 589
Urea, determination, colorimetric, *Ormsby,* 595
Urocanic acid: Histidine metabolism, intermediary, relation, *Darby and Lewis,* 225

V

Valeric acid: Thiophene-, biotin relation, *Melville, Moyer, Hofmann, and du Vigneaud,* 487
Virus: Tobacco mosaic, carbobenzoxy, *p*-chlorobenzoyl, and benzenesulfonyl derivatives, *Miller and Stanley,* 331
— —, denaturation, measurement by phenolic groups, *Miller,* 339
— —, derivatives, *Miller and Stanley,* 331
Miller, 339, 345
— —, —, phenolic groups, determination, tyrosine derivatives, relation, *Miller,* 345

Vitamin(s): C, excretion and hypoprothrombinemia, 3,3′-methylenebis(4-hydroxycoumarin) effect, *Baumann, Field, Overman, and Link*, 7
Determination, *Lactobacillus casei* growth, hydrogen ion concentration change as measure, *Silber and Mushett*, 271
E deficiency, muscle oxygen consumption, creatine, and chloride, α-tocopherol effect, *Houchin and Mattill*, 301
Interrelationships, *Sure and Ford*, 241

W

Wheat: Protein, crystalline, phosphatide reversal, antimicrobial action, *Woolley and Krampitz*, 273
Work: *See also* Muscle